

In the Claims:

Please amend the claims as follows.

1. (currently amended) ~~Process~~ A process for purifying a composition comprising (meth)acrylic acid, at least one impurity and water, wherein the composition has a water content in the range of about 0.55 to about 90, based on the composition, to form a purified phase comprising (meth)acrylic acid and at least one impurity, wherein, in the purified phase, the quantity of at least one impurity is less than about 7% by weight, based on (meth)acrylic acid in the purified phase, comprising a stage of the process which includes the following process steps:
 - a) (meth)acrylic acid is ~~crystallised~~ crystallized from the composition while forming a suspension comprising a mother liquor and (meth)acrylic acid crystals;
 - b) (meth)acrylic acid crystals are separated from the mother liquor;
 - c) at least a portion of the separated (meth)acrylic acid crystals is melted to form a melt; and
 - d) a portion of the melt is recycled to step a) or step b) and wherein the portion of melt which is not recycled is in the form of a separated (meth)acrylic acid.
2. (currently amended) ~~Process~~ The process according to claim 1, wherein, in step a), (meth)acrylic acid ~~crystallises~~ crystallizes at least in part to form a crystal with a crystal structure having a surface with at least one recess located on the surface, the crystal structure having an orthorhombic Bravais crystal lattice with an Ibam space group, crystallographic data $a = \text{about } 9.952 \text{ \AA}$, $b = \text{about } 11.767 \text{ \AA}$ and $c = \text{about } 6.206 \text{ \AA}$.
3. (currently amended) ~~Process~~ The process according to ~~either of claims 1 or 2~~ claim 1, wherein, in step a), the mother liquor comprises at least about 60% by weight of

(meth)acrylic acid and water, wherein the water concentration of the mother liquor is in the range of about 10 and about 90% by weight.

4. (currently amended) ~~Process~~ The process according to ~~any of the preceding claims~~ claim 1, wherein the (meth)acrylic acid crystals are washed in the countercurrent of the recycled melt.
5. (currently amended) ~~Process~~ The process according to ~~any of the preceding claims~~ claim 1, wherein the melt is purified in a separate purification process.
6. (currently amended) ~~Process~~ The process according to ~~any of the preceding claims~~ claim 1, wherein the (meth)acrylic acid crystals from step b) are supplied at least in part to step a).
7. (currently amended) ~~Process~~ The process according to ~~any of the preceding claims~~ claim 1, wherein the mother liquor separated in step b) is recycled at least in part to step a).
8. (currently amended) ~~Process~~ The process according to ~~any of the preceding claims~~ claim 1, wherein the process comprises at least two stages, which each comprise steps a) to d), wherein at least one of the following features ($\alpha 1$) to ($\alpha 4$) is fulfilled:
 - ($\alpha 1$) separated (meth)acrylic acid from a first stage of the process is supplied at least in part to a second stage of the process;
 - ($\alpha 2$) separated (meth)acrylic acid from a second stage of the process is supplied at least in part to a first stage of the process;
 - ($\alpha 3$) mother liquor from a first stage of the process is supplied at least in part to a second stage of the process;
 - ($\alpha 4$) mother liquor from a second stage of the process is supplied at least in part to a first stage of the process.

9. (new) The process for obtaining (meth)acrylic acid by a process according to claim 1.

10. (new) The process for producing a polymer based on (meth)acrylic acid, wherein the (meth)acrylic acid according to claim 9 is polymerized.

[[9.]] 11. (currently amended) ~~Apparatus~~ An apparatus for producing (meth)acrylic acid comprising, as components which are connected to one another in a fluid-conveying manner, a (meth)acrylic acid synthesis unit comprising a (meth)acrylic acid reactor, ~~and~~ a quench absorber, and a purification apparatus which comprises an apparatus unit comprising features (δ1) to (δ4):

(δ1) the apparatus unit comprises a ~~crystallisation~~ crystallization region, a separating region, a melter and at least three guides;

(δ2) the ~~crystallisation~~ crystallization region is connected to the separating region by a first guide;

(δ3) the separating region is connected to the melter by a second guide;

(δ4) the melter is connected to the ~~crystallisation~~ crystallization region by a third guide or to the separating region by a fourth guide;

wherein the purification apparatus comprises an inlet which guides a composition comprising (meth)acrylic acid, at least one impurity and water, the composition having a water content in the range of about 0.55 to about 90, preferably of about 7 to about 50 and particularly preferably of about 10 to about 25 % by weight, based on the composition.

[[10.]] 12. (currently amended) ~~Apparatus~~ The apparatus according to claim [[9]]11, wherein the (meth)acrylic acid synthesis unit and the purification apparatus are connected to one another without a distillation apparatus.

[[11.]] 13. (currently amended) ~~Apparatus~~ The apparatus according to ~~either of claims 9 or 10~~ claim 11, wherein the apparatus unit comprises a separate purification apparatus.

[[12.]] 14. (currently amended) ~~Apparatus~~ The apparatus according to ~~any of claims 9 to 11~~ claim 11, wherein the separating region is connected to the crystallisation region by a first return for separated (meth)acrylic acid.

[[13.]] 15. (currently amended) ~~Apparatus~~ The apparatus according to ~~any of claims 9 to 12~~ claim 11, wherein the separating region is connected to the crystallisation region by a second return for separated mother liquor.

[[14.]] 16. (currently amended) ~~Apparatus~~ The apparatus according to ~~any of claims 9 to 13~~ claim 11, characterised by at least two apparatus units according to features ($\delta 1$) to ($\delta 4$), which are connected by at least one connecting line, the connecting line being a feed line or a return line and at least one of the following features ($\epsilon 1$) to ($\epsilon 4$) being fulfilled:

- ($\epsilon 1$) the separating region of a first apparatus unit is connected via the connecting line to the ~~crystallisation~~ crystallization region of a second apparatus unit;
- ($\epsilon 2$) the melter of a first apparatus unit is connected via the connecting line to the ~~crystallisation~~ crystallization region of a second apparatus unit;
- ($\epsilon 3$) the separating region of a second apparatus unit is connected via the connecting line to the ~~crystallisation~~ crystallization region of a first apparatus unit;
- ($\epsilon 4$) the melter of a second apparatus unit is connected via the connecting line to the ~~crystallisation~~ crystallization region of a first apparatus unit.

[[15.]] 17. (currently amended) ~~Apparatus~~ The apparatus for polymerising (meth)acrylic acid, comprising an apparatus for producing (meth)acrylic acid according to ~~any of claims 9 to 14~~ claim 11 and a ~~polymerisation~~ polymerization unit, wherein the purification apparatus of the apparatus for producing (meth)acrylic acid is connected to the ~~polymerisation~~ polymerization unit.

16. (canceled)

[[17.]] 18. (currently amended) ~~(Meth)acrylic A~~ (meth)acrylic acid obtainable by a process ~~according to any of claims 1 to 8 or 16 for purifying a composition comprising (meth)acrylic acid, at least one impurity and water, wherein the composition has a water content in the range of about 0.55 to about 90, based on the composition to form a purified phase comprising (meth)acrylic acid and at least one impurity, wherein, in the purified phase, the quantity of at least one impurity is less than about 7% by weight, based on (meth)acrylic acid in the purified phase, comprising a state of the process which includes the following process steps:~~

- a) (meth)acrylic acid is crystallized from the composition while forming a suspension comprising a mother liquor and (meth)acrylic acid crystals;
- b) (meth)acrylic acid crystals are separated from the mother liquor;
- c) at least a portion of the separated (meth)acrylic acid crystals is melted to form a melt; and
- d) a portion of the melt is recycled to step a) or step b) and wherein the portion of melt which is not recycled is in the form of a separated (meth)acrylic acid.

18. (canceled)

19. (new) Fibers, shaped articles, films, foams, superabsorbent polymers, special polymers for the areas of waste water treatment, dispersion dyes, cosmetics, textiles, leather treatment or paper production or hygiene articles, at least based on or comprising (meth)acrylic acid of claim 18.

[[19.]] 20. (currently amended) ~~Polymer,~~ A polymer obtainable by ~~a process according to polymerizing the (meth)acrylic acid of claim 18.~~

[[20.]] 21. (currently amended) ~~Fibres~~ Fibers, shaped articles, films, foams, superabsorbent polymers, special polymers for the areas of waste water treatment, dispersion dyes, cosmetics, textiles, leather treatment or paper production or hygiene articles, at least based on or comprising ~~(meth)acrylic acid according to claim 17 or a polymer according to claim 19~~ the polymer of claim 20.

22. (new) The polymer of claim 20 used in or for the production of fibers, shaped articles, films, foams, superabsorbent polymers or hygiene articles, detergents or special polymers for the areas of waste water treatment, dispersion dyes, cosmetics, textiles, leather treatment or paper production.

[[21.]] 23. (currently amended) ~~Use of the~~ The ~~(meth)acrylic acid according to~~ of claim ~~18 17 or a polymer according to claim 19~~ used in or for the production of ~~fibres~~ fibers, shaped articles, films, foams, superabsorbent polymers or hygiene articles, detergents or special polymers for the areas of waste water treatment, dispersion dyes, cosmetics, textiles, leather treatment or paper production.